

REMARKS

Support for the amendment to claim 19 is found in the specification at page 16, paragraph 39, and the support for the amendment to claim 24 is a change in claim dependency resulting from cancellation of previously submitted claim 20. Support for added claim 25 is found at line 7 in table 2 on page 15.

REJECTION UNDER 35 U.S.C. 112

Previously submitted claims 17 and 20 have been cancelled so the rejection under the second paragraph of Section 112 for indefiniteness is moot.

CLAIM REJECTION UNDER 35 U.S.C. 102

Previously submitted claims 14-24 were rejected under Section 102(b) as anticipated by Morimoto et al. U.S. Patent 5,362,589, which should be 5,362,689 ('689), and separately under 102(e) from Nakashima et. al. U.S. Patent 6,313,052B1.

It is respectfully submitted that amended claim 19 and claims dependent therefrom are novel and unobvious over both of these references. Neither reference teaches nor suggests a glass composition with a total amount of CaO and MgO from 12.74 to less than 13.4 weight percent and a ratio of CaO to MgO in the range of 2 to 5. This glass composition has a the melting point from the log 2 viscosity that reduces fuel usage in preparing the glass and the bending and annealing temperatures of the glass are from the log 7.6 viscosity in the range of about 1300°F to about 1350°F (704°C to 732°C) and from the log 13 viscosity in the range of about 1016°F to about 1020°F (547°C to 549°C).

Previously submitted claims 14-24 were rejected under 35 U.S.C. 102(e) from the reference Nakashima et al. U.S. Patent 6,313,052 B1 ('052).

Example 20 was indicated by the Office Action as anticipating the previously submitted claims 14-24.

It is respectfully submitted that even Example 20 is not anticipatory of applicants' claimed invention of claim 19, as amended, and claims dependent therefrom. There is no teaching

nor suggestion of the total amount of CaO and MgO from 12.74 to less than 13.4 weight percent. There is no teaching nor suggestion in the reference of several additional points claimed in these claims. These points include: 1) the ratio of calcium oxide to magnesium oxide to lower the melting point to the specified range of the log 2 viscosity of claim 19; and 2) achieving the log 4 viscosity for the forming temperature.

Actually the '052 teaches away from obtaining a forming temperature as claimed in claim 19 since all of the forming temperatures of Tables 1, 2, and 3 are higher than that in the range of claim 19 from 1010°C to 1034°C. For any inherency to exist, the result must naturally flow from the teachings of the reference. There is no teaching to select a ratio of calcium oxide to magnesium oxide and have a total amount of the calcium oxide and magnesium oxide as now claimed to achieve the lower melting point of the log 2 viscosity as now claimed. Also there is no teaching or suggestion of having the forming temperature as now claimed as the log 4 viscosity range.

Therefore it is respectfully submitted that claim 19 and claims dependent therefrom are novel and unobvious over the '052 reference.

Claims 14-21, 23 and 24 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 17-24 of copending Application No. 09/974,124.

Applicants submit herewith a provisional terminal disclaimer over claims 17-24 of the copending patent Application No. 09/974,124 for any patent that issues covering those claims.

U.S. Patent Application No. 09/974,124 was filed October 8, 2001, and is actually commonly assigned to PPG Industries Ohio, Inc. where the two applications have two of three similar inventors. A copy of this assignment and the recordation notice of Reel 012529, Frame 0233 having four pages and recordation date of January 16, 2002, are enclosed herewith. Based on the actual assignment documents as shown as recorded in the patent office documentations and the provisional terminal

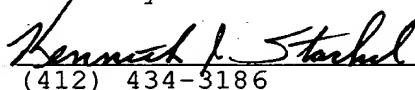
disclaimer filed herewith, the applications are actually commonly assigned. Therefore it is respectfully submitted that the obligation of common assignment assigning by the inventors is already shown and further documentation is not necessary.

Entry of this rule 116 amendment is respectfully requested to place the application in condition for allowance or to narrow issues on appeal. It is respectfully submitted that in view of the above amendments, explanations and remarks, claims 14-24, as amended, and claim 25 as added novel, unobvious and patentable. The Examiner is requested to advise Applicants of the disposition of this amendment at the Examiner's earliest convenience.

Attached hereto is a marked-up version of the amendments to the claims made by the instant amendment. The attached page is captioned "VERSION WITH MARKINGS TO SHOW CHANGES MADE".

Respectfully submitted,

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VERSION WITH MARKINGS TO SHOW CHANGES MADE

IN THE CLAIMS

Please cancel without prejudice claims 17 and 20.

Please amend claims 19, 24, and add claim 25 in the below indicated manner.

19. (Twice amended) A glass composition, comprising:

SiO ₂	70 to 75 weight percent
Na ₂ O	12 to 15 weight percent
K ₂ O	0 to 5 weight percent
CaO	> 9 weight percent
MgO	< 4 weight percent
Al ₂ O ₃	0 to 2 weight percent
SO ₃	0 to 1 weight percent
Fe ₂ O ₃	0 to 2 weight percent

wherein:

SiO ₂ + Al ₂ O ₃	≥ 70 weight percent
Na ₂ O + K ₂ O	10 to 15 weight percent
CaO + MgO	12.74 to less than 13.4 weight percent
CaO/MgO	2 to 5

wherein the glass composition has a log 2 viscosity in the range of about 2570°F to about 2590°F (1410°C to 1421°C) and a log 4 viscosity in the range of about 1850°F to about 1894°F (1010°C to 1034°C).

24. (amended) The composition according to claim 2021, wherein the melting point of the glass composition from the log 2 viscosity reduces fuel usage in preparing the glass and the bending and annealing temperatures of the glass from the log 7.6 viscosity in the range of about 1300°F to about 1350°F (704°C to 732°C) and a log 13 viscosity in the range of

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about 1016°F to about 1020°F (547°C to 549°C) are in the range for a higher melting glass.

25. The composition according to claim 19, wherein the ratio of CaO to MgO is 2.77 to 5.